Modern communication and transport facilities have transformed the world into a global village, and this has manifested in many ways, some good and impressive, and others are unfortunate and frightening. Of the latter, severe acute respiratory syndrome (SARS) is an example. Since November 2002, SARS outbreak has sprung from China to reach over 20 countries, and as of April 17, 2003 more than 3000 suspected SARS cases have been reported and an excess of 160 patients have died worldwide. In addition, enormous economic losses are expected, especially in South East Asia. The impact of the disease is felt so much that the world health bodies along with local health authorities and specialized laboratories are working around the clock to find the ways to understand and stop this new epidemic.

Severe acute respiratory syndrome was first recognized on February 26, 2003 in Hanoi, Vietnam, by the World Health Organization (WHO) investigator Dr. Carlo Urbani, who himself died of SARS in Bangkok hospital. What appeared to be a simple seasonal flu when it started in Guangdong province of China in mid-November last year has turned into a global epidemic. The speed of spread of the illness was such that WHO had to issue a rare global warning on March 12, 2003, which was followed by formation of Emergency Operations Unit at the Center for Disease Control (CDC). The worst affected areas are China, Hong Kong, Canada, Singapore, and Vietnam. Kuwait is the only country in the gulf that reported a case of SARS.

Health care workers need to be alert to the possibility of encountering patients with SARS. The current case definition is presence of fever >38°C along with one or more of the respiratory findings of cough, dyspnea, hypoxia or findings of pneumonia or acute respiratory distress syndrome (ARDS) on chest x-ray and travel within 10 days to high risk areas such as China, Hong Kong, Singapore and Vietnam or close contact within 10 days with a SARS suspect or a person who has traveled to high risk area within last 10 days. As symptoms and signs are not specific, history of travel or close contact is essential. However, such history loses its value in areas where there is significant spread of the virus. This definition will of course be modified as more and more information is gathered from research bodies around the globe. It is likely that as the virus has now been identified, rapid diagnostic tests will be available in the near future, which will facilitate identification of cases.

According to the current knowledge we have of SARS, it affects mainly the adult population. The children are miraculously spared or if affected, the illness is very mild. Approximately 10% of SARS patients require intubation and case-fatality rate is approximately 3-4%. The majority of patients in a cohort of 138 cases in Hong Kong published in the New England Journal of Medicine, showed lymphopenia and high serum lactate dehydrogenase. The main radiological abnormalities are varying degrees of pneumonia and ARDS. The hallmark of histopathological changes is cytopathic effect in the form of vacuolated cells on cytology analysis and diffuse alveolar damage with organization on pathological examination.

Severe acute respiratory syndrome appears to be transmitted by droplets, which usually reach up to 3 meters only. Therefore, close contact is required to acquire the infection. Airborne spread has also been
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speculated but the most worrying news is fomites, surfaces such as door handles and elevator buttons have the potential to transmit infection. The majority of cases have been in health care workers and family members of affected persons.

There have been extensive research through out the world’s renowned laboratories to find the causative agents and the good news came on April 17, 2003 when Dr. David Heymann, WHO's executive director of communicable disease programs, announced that a new corona virus has been confirmed to be the cause of SARS and will be called SARS virus Urbani strain. Complete nucleotide sequences of the virus have been published, which is 29,727 nucleotides in length. This will pave the way for development of a vaccine and specific therapy targeting the virus.

Since there is yet no known effective therapy or vaccination, measures that can contain this epidemic are of prime importance. In this regard and in the absence of sufficient knowledge on this new epidemic from conventional sources, the authoritative information at the CDC and WHO web sites, is an excellent resource (see WHO release in this issue of the journal). The information is comprehensive and continuously updated, covering infection control measures needed for patients with SARS, contacts (family and healthcare workers), handling of remains of SARS patients, laboratory biosafety guidelines, isolation and quarantine, and travel advisory. Public health authorities, hospital administrators and committees, and individual healthcare workers might find some useful tips to aid preparation for the coming epidemic. The extent to which these measures are undertaken is likely to be proportional to the degree of success in containing this outbreak. Planning these preventive strategies is a challenge, as it requires coordinated interventions not only at the hospitals, but also at workplaces, airports and possibly schools and colleges if the number of affected individuals continues to escalate. Luckily no cases have been reported from Kingdom of Saudi Arabia (KSA), but caution is needed as a large number of expatriates from South East Asia regularly travel back and forth from their countries with frequent transits at the high-risk area airports. The best protection from SARS at this moment is to make the public aware of the illness; avoid travel to high-risk areas and sensible screening of people coming from high-risk areas at all ports of entry to KSA. Especially worrisome in our community is the large social and religious gathering in which there is close contact. It is hoped that this epidemic will start to regress, and that there will be breakthroughs in prevention and therapy before the next pilgrimage season.

Health care workers should have knowledge of the disease and any suspected case should be immediately transferred to a negative pressure room, given a surgical mask and reported to the infection control. Health care workers should limit the contacts with suspected cases and preferably only one nurse and one doctor should be assigned to the triage area for the suspected cases. This is the message delivered by world renowned infectious disease experts in the last annual session of The American College of Physicians in April 2003.

The speed with which international health organizations have acted and the collaboration among the various research laboratories around the world is a positive aspect of globalization. This makes us optimistic to hope that breakthroughs will be achieved in a relatively short time. Nonetheless, the question remains whether the SARS virus is going to move faster than human efforts. So we should hope for the best and prepare for the worst.

References

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